HDF-EOS Status and Development

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HDF-EOS Support

- Maintenance support is funded on EMD Evolution through May 2008
- **Current staff**
  - One full time developer for maintaining:
    SDP/MTD Toolkit,
    HDF-EOS2 & 5,
    HDF-EOS plug-in for HDFView,
    other Toolkit/HDF-EOS related software
  - One full time developer for HEG maintenance

ECS Support of HDF-EOS

- Both HDF4 and HDF5 based flavors of HDF-EOS are part of ECS baseline.
- OS's: Solaris (8, 9, 10), Irix6.5, HP 11, AIX, DEC, Windows NT/98/2000/XP, Linux (including 64-bit Opteron and Itanium), Mac OS X
- adding Cygwin support
- Compilers: Fortran 77/90 & g77/pgf90 , C, C++, gcc, g++

Software Releases

Toolkit/HDF-EOS:

- **Last release – March 2006**
  - **TOOLKIT 5.2.14, HDF-EOS 2.14, HDF-EOS5.1.10**
  - **with HDF4.2r1, HDF5-1.6.5-post5, Szip2.0**
- **Next release – December 2006**
  - **TOOLKIT 5.2.15, HDF-EOS 2.15, HDF-EOS5.1.11**
  - **with new releases of HDF4, and HDF5**

HDF-EOS Plug-in for HDFView:

- **Last release – May 2006**
  - **Version 2.3**
- **Next release – Dec. 2006**
  - **After HDFView2.4 release by The HDF Group possibly in November 2006**

Downloadable Applications

- HE5View* (HDF5 - based browser)
- EOSView* (HDF4 - based browser)
- HDFView, Java-based browser (HDF4, HDF5, HDF-EOS 2 and 5 access)
- heconvert (converts HDF4 - based Grid/Point/Swath structures to HDF-EOS 5 equivalents)
  - Compliments HDF4 -> HDF5 conversion tool
  - Not tested on all products
- HEG (HDF-EOS2 to GeoTIFF converter, subsetting, reprojection, stitching, sub-sampling, etc.)

*** Dropped support for OS updates since July 2006**

Major Development/Fixes

Last Release:

HDF-EOS5:

- Added a routine to return list of aliases for a given field
- Used HDF5's H5T_C_S1 datatype for string type
- Added Fortran wrapper for SWwritedatameta() routine
- Modified symbol "H5E_NONE_MAJOR" to other symbols for better description of errors
- Ported to Solaris 9 and Solaris 10
- POINT object fixes of:
  - linkage between levels
  - updating levels
  - writing Forward and Backward Linkage data
  - char field inquiry

Major Development/Fixes (cont.)

- Fixed subsetting problem in HDF-EOS5 Grid, resulting from faulty conversion of DMS degree to Decimal degree.
- Setting LD_LIBRARY_PATH for SZIP/HDF5 shared libraries in installation and environment setting scripts

TOOLKIT/HDF-EOS2:

- Ported to Solaris 9 and Solaris 10
- Gdapi.c changes for adding more significant digits after the decimal point to projection parameters if needed.
- chkeph utility fixes for reading binary ephemeris files (files with a different endian than the machine used to run chkeph)
- SGI 7.4.2 compiler support
- orbsim fixes for Linux to create files similar to those in UNIX platforms

Major Development/Fixes (cont.)

Next Release

- Default installation of SZIP
- Choice for installing Toolkit/HDF-EOS in 32 or 64 bit modes in 64-bit Linux platforms
- New HDF4/HDF5 Release support
- Lat/Lon conversions to pixel number in DEM tools in Linux for getting results similar to those in Unix platforms

Major Development/Fixes (cont.)

HDF-EOS Plug-in for HDFView

Current Support: SUN, SGI, LINUX, WINDOWS platforms

Last Release: Version 2.3

- Display Point Objects
- Display pixel's lat/lon for swath and grid images
- Scientific notation in Table data

Next Release: Version 2.4

- Automatic installation of plug-in into HDFView running self-extracting archives.
- Display image for selected pixels in the viewed tables
- Display Lat/Lon for a selected pixel in the data field tables
- Mac OSX porting
- Better display of Plug-in User's Guide
- New icons for activating Lat/Lon display for Swath & Grid

HDF-EOS/Toolkit

Future Plans:

- Support for Cygwin
- Support for HDF4.2r2 and HDF5-1.8
- Performance improvement, if possible, for reading HDF format ephemeris/attitude files in Toolkit
- Performance improvement in HDF-EOS5 by redesigning some functions
- More functionalities in HDF-EOS Plug-in for HDFView:
  - Format conversion: HDF-EOS2 -> HDF-EOS5
  - Improved Help Window
  - Ability to modify input HDF-EOS2 granules.
  - Ability to cut/paste objects, modify/delete attributes.
  - Ability to create new grids/swaths

Availability

- Access to libraries and applications:

TOOLKIT:
http://newsroom.gsfc.nasa.gov/sdptoolkit/toolkit.html

HDFView:
http://newsroom.gsfc.nasa.gov/sdptoolkit/HDFView/HDFView_hdfeos_plugin.html

HEG:
http://newsroom.gsfc.nasa.gov/sdptoolkit/HEG/HEGHome.html

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SDP Toolkit

- Science Data Production (SDP) Toolkit is a collection of tools used by
  - Science software developers who produce code to process instrument data.
  - HDF-EOS users who need to
    - Access metadata in HDF-EOS files
    - Perform Time/Date conversion
    - Access Digital Elevation Model Data
    - Access Ancillary Data, such as Digital Chart of the World database (DCW), Olson World Ecosystem files, DEM data files, etc.

SDP Toolkit (cont.)

- Tools provided in Toolkit:
  - AA (Ancillary Data Access)
  - CBP (CELESTIAL Body Position)
  - CSC (Coordinate System Conversion)
  - CUC (Constant and Unit Conversions)
  - DEM (Digital Elevation Model Access)
  - EPH (Ephemeris Data Access)
  - GCT (Geo Coordinate Transformation)
  - IO (Input Output (File I/O))
  - MEM (Memory Management)
  - MET (Metadata Access)
  - PC (Process Control)
  - SMF (Status Message File (Error/Status))
  - TD (Time Date Conversion)